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~~changes in oscillator frequency caused by environmental factors~~, the method comprising:

estimating maximum drift rates in the measurement values caused by the inductive sensor and vehicle detector components as a fraction of ^{an} the oscillator period during a maximum time period;

measuring a change in the measurement value during a maximum time period [defined by the estimated maximum drift rates];

comparing the change in the measurement value to a threshold change in value; and

producing a new reference value, if the change in the measurement value was less than the threshold change by adding a fraction of the change to the reference value.

Remarks

As presented herein, claims 1-13 are amended.

I. The respective amendments responsive to the rejections under 35 U.S.C. § 112 are as follows:

Claim 1 is amended, particularly at the step dealing with the calculation of time after vehicle exit to further recite that that calculation includes a determination of vehicle speed and that the calculated time is used to determine when the sample measurement value is produced. As so amended, not only is the claim rendered definite, but also the claim patentably distinguishes over Koerner ('339), which totally fails to suggest even the method of modifying a reference value based on the determination of a measurement value at a time after which a vehicle has exited from the detection area, much less the method in which that time has been determined based on a prior determination of the speed of the vehicle passing through the detection area as set forth in claim 1.

The rejection of claim 2 has been responded to by the inclusion in claim 1 that the sample measurement value is produced at the calculated time after vehicle exit.

Claims 3 and 4 are similarly amended to refer to a sample measurement value.

In claim 6, the step of comparing the sample measurements taken has been amended to further recite that the sample measurement values are compared to determine whether the values are within a predetermined range.

Claims 7 and 8 are amended by deleting the last four lines and reciting, in lieu thereof, that the determination of the difference between the currently and previously measured dummy sensor inductances, which inductance is unaffected by vehicles, is, therefore, indicative of an environmental factor unrelated to the inductive sensor.

The rejections in both claims 9 and 10 are responded to by amendments in which the identified changes are determined not to be caused by vehicles and are, therefore, caused by mechanical difficulties requiring maintenance assistance.

Finally, claim 13 is amended to recite that the maximum drift rate is estimated as a fraction of the oscillator period during a maximum time period and that the measurement of a change in the measurement value occurs during a maximum time period which is defined by those estimated maximum drift rates. As set forth in the specification, see particularly section 5 at pages 14-16 of the specification, the maximum drift rate is the summation of that caused by the sensor and other components exterior to the detector, and that caused by components internal to the detector, both expressed as a fraction of the sensor drive oscillator in a maximum time period beyond which a change in the oscillator period is allowed to be identified as the presence of a vehicle within the detection area.

II. Regarding the rejections of claims 1, 11, and 12, under 35 U.S.C. § 102(b), as being anticipated by Koerner ('339), as noted above, claim 1 has been amended to further recite that the calculation of a time after vehicle exit is based on a determination of vehicle speed. Claim 1 thereby clearly distinguishes over Koerner, which fails to either disclose or suggest any such technique. It is respectfully submitted that Koerner only suggests that "the measured period is compared with a historical reference period developed during one or more prior scan cycles to determine whether the frequency of the loop has changed sufficiently to indicate that a vehicle has entered or exited the area over the loop." There is no suggestion therein that the time after exiting should be determined and a measurement be made at that time in order to determine whether to modify the restored reference value. Koerner similarly fails to suggest that an average of a number of sample values be stored, an average of the stored values taken, and that average used to modify the reference value (see claim 4). In the absence of any such suggestion of teaching or suggestion, it is respectfully submitted that claim 1, as amended, and claims dependent thereon are allowable both under 35 U.S.C. § 102(b) and under 35 U.S.C. § 103.

Claim 11 is also amended to recite that the adjustment of the new reference value is based upon a comparison of an average change in a plurality of measured values with the threshold change. As noted above, such a feature is in no way disclosed nor suggested by Koerner, and claim 11 is, therefore, allowable thereover.

Claim 12 is similarly deemed to be allowable, both based on the allowability of claim 11 from which it depends, and also as Koerner fails to suggest the specific embodiment in which an average change in the measured value is added to the reference value to thereby change the threshold.

III. Regarding the rejections under 35 U.S.C. § 103, claim 5 has been amended to clarify that a time is determined, based on a previously determined vehicle speed, at which a vehicle will have sufficiently traveled after exiting the sensor area so as to have no effect on the oscillator frequency. As with claim 1, Koerner totally fails to suggest any such time determination or measurement at that time. Claim 5 and claim 6, dependent thereon, must therefore be deemed allowable.

As the amendments to the claims set forth hereinabove are in accordance with the recitations presented hereinabove, the rejections under 35 U.S.C. § § 112, 102(b), and 103, as set forth in the outstanding office action, have been overcome and reconsideration of the rejections and prompt allowance of the claims is appropriate.

Respectfully submitted,

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Date

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